What is claimed is:

1. A system for tracking changes in technical processes, machines or the like having measurement chains for acquiring measured data, having sensors, sensor lines and interpretation electronics, and having governing software, wherein interdependent measured quantities are combined into measurement groups (module 26), wherein validity conditions are defined for the measured data (module 28), wherein the measured data are utilized only if their validity condition are fulfilled, and wherein the measured data of the measurement groups are linked with reference quantities (module 29).

2. The system for tracking changes of Claim 1 wherein at least one of the validity conditions for the measured data (module 28) is a value going higher or lower than a special measured value of a measured quantity or a value going higher or lower than a value that is calculated from a plurality of special measured values of a plurality of measured quantities.

3. The system for tracking changes of Claim 2 wherein at least one of the validity conditions for the measured data (module 28) is a statistical quantity formed from a dependent measured quantity or a combination of a plurality of dependent measured quantities with a time period as base.

4. The system for tracking changes of Claim 1 wherein at least one of the validity conditions for the measured data (module 28) is a statistical quantity formed from a dependent measured quantity or a combination of a plurality of

dependent measured quantities with a time period as base.

5. The system for tracking changes of Claim 1 wherein at least one of the validity conditions for the measured data (module 28) is a waiting time that begins upon a value going higher or lower than a measured value of a measured quantity or upon a value going higher or lower than a value that is calculated from a plurality of special measured values of a plurality of measured quantities.

6. The system for tracking changes of Claim 1 wherein at least one of the validity conditions for the measured data (module 28) is defined by dependent measured quantities that are constant over a period of time.

7. The system for tracking changes of Claim 1 wherein at least one of the validity conditions for the measured data (module 28) constitutes at least one setpoint value in the process.

8. The system for tracking changes of Claim 1 wherein at least one of the validity conditions for the measured data (module 28) is loading.

9. The system for tracking changes of Claim 1 wherein at least one of the reference quantities is formed from a calculated quantity of a plurality of measured quantities of one of said measurement groups.

10. The system for tracking changes of one of Claim 9 wherein at least one of the reference quantities is formed from the mean of the dependent measured quantities of one of said measurement groups.

11. The system for tracking changes of one of Claim 1 wherein at least one of

the reference quantities is equal to the measured quantity when a measurement group contains only one measured quantity.

12. The system for tracking changes of Claim 1 wherein a unique name is provided as identification for measurement groups and for data sets of measurement groups.

13. The system for tracking changes of Claim 1 wherein standardized values of the same measurement group are compressed into standardized statistical values.

14. The system for tracking changes of Claim 13 wherein time values are provided as basis for said standardized statistical values.

15. The system for tracking changes of Claim 14 wherein the time values are a selection of the common time quantities such as seconds, minutes, hours, days, weeks, months, years.

16. The system for tracking changes of Claim 14 wherein those standardized statistical values for which the trend curve of the standardized statistical values has taken on the character of a straight line whose angle, with allowance for a tolerance, deviates slightly from the horizontal are included in a maintenance list (module 37) with low priority.

17. The system for tracking changes of Claim 14 wherein those standardized statistical values for which the trend curve is degressive or progressive or shows abrupt changes are included in a maintenance list (module 37) with high priority.

18. The system for tracking changes of Claim 13 wherein the standardized values of the last-acquired measured values are examined for malfunctions in the measurement chain in the acquisition of measured data and for suddenly occurring serious malfunctions.

19. The system for tracking changes of Claim 18 wherein a malfunction in the measurement chain in the acquisition of measured data is presumed if the comparison of the standardized value of the last-acquired measured value with the standardized value of the previously acquired measured value yields a value that cannot occur operationally.

20. The system for tracking changes of Claim 19 wherein the malfunctioning measurement chain is included in a warning list (32).

21. The system for tracking changes of Claim 18 wherein a serious operational malfunction is presumed if the comparison of the standardized value of the last-acquired measured value with the standardized value of the previously acquired measured values, which represents no malfunction in the instrumentation, yields a difference value whose magnitude exceeds a limiting value.

22. The system for tracking changes of Claim 21 wherein the malfunctioning measurement chain is included in a warning list (32) with high priority, an alarm is issued to the operating personnel and/or the installation is shut down.

23. The system for tracking changes of Claim 13 wherein a malfunction in the

measurement chain in the acquisition of measured data is presumed if the range of variation of the standardized statistical values, with allowance for a tolerance, takes on a value greater than the previously acquired standardized statistical values.

24. The system for tracking changes of Claim 23 wherein the malfunctioning measurement chain is included in a warning list (32) with high priority, an alarm is issued to the operating personnel and the installation is shut down.

25. The system for tracking changes of Claim 1 wherein, in case of malfunctions in the instrumentation, plausible substitute values, which will make possible the continued operation of the installation under restricted conditions, are prepared.